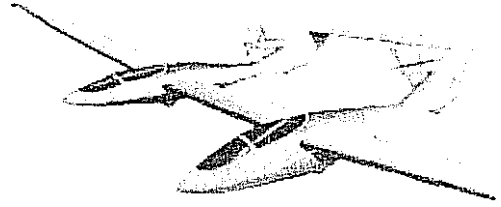


# CHAP AirTech Pty Ltd

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Mr Stuart Ellis  
Chairman  
COAG Bushfire Inquiry  
Department of Prime Minister and Cabinet  
3-5 National Circuit  
Barton ACT 2600

Ref: CHAP-COAG-111103-1  
E-mail: [coagbushfireinquiry@pmc.gov.au](mailto:coagbushfireinquiry@pmc.gov.au)  
Wednesday 11<sup>th</sup> November 2003

Dear Sir,

**Re: COAG 'Inquiry on Bushfire Mitigation and Management'  
SUBMISSION.**

*Handwritten signature and date:*  
5/12

We wish to advise the COAG 'Inquiry on Bushfire Mitigation and Management' of CHAP AirTech's developments in progress and future undertakings, and the impact this could have in respect to Government's responsibility for Bushfire Mitigation and Management of the future.

CHAP AirTech's Submission identifies THREE (3) distinct Projects under development.

They being:

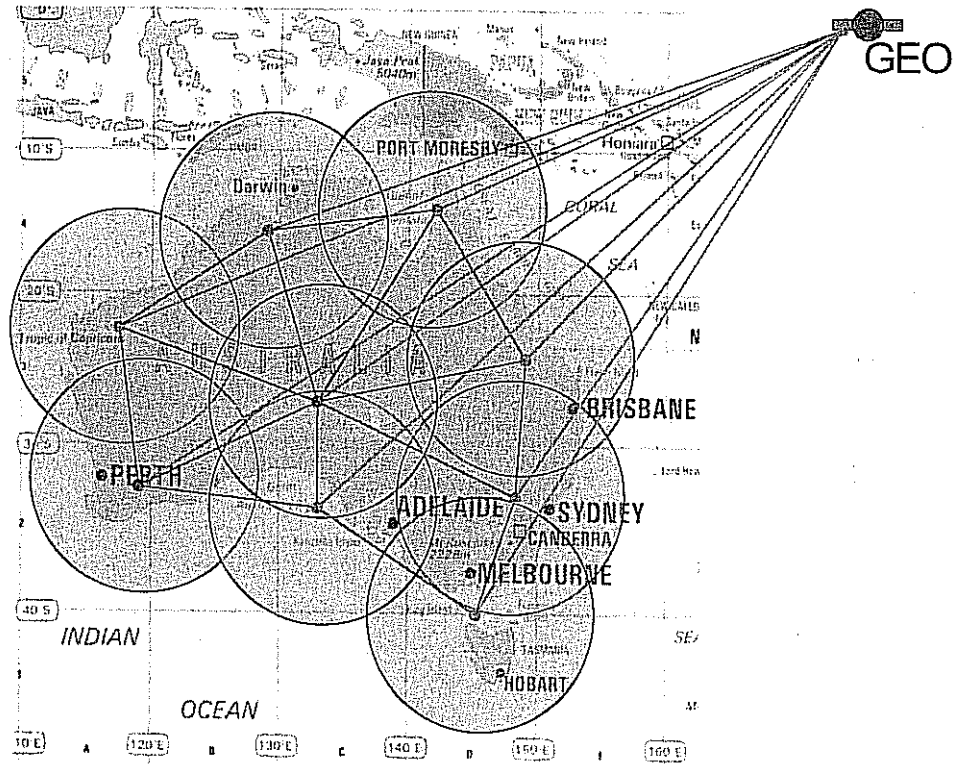
**✻ CHAP AirTech 'Hummingbird' PROJECT SUMMARY:**

CHAP AirTech Pty Ltd was incorporated to deliver an unmanned long flight endurance high altitude semi-stationary aircraft ("*Hummingbird*") to deliver Digital Phone, TV, Surveillance and Reconnaissance services. CHAP AirTech's '*Hummingbird*' Program is an intermediary step between ground stations and satellites, incorporating a wide array of advanced technology exclusive to the Company.

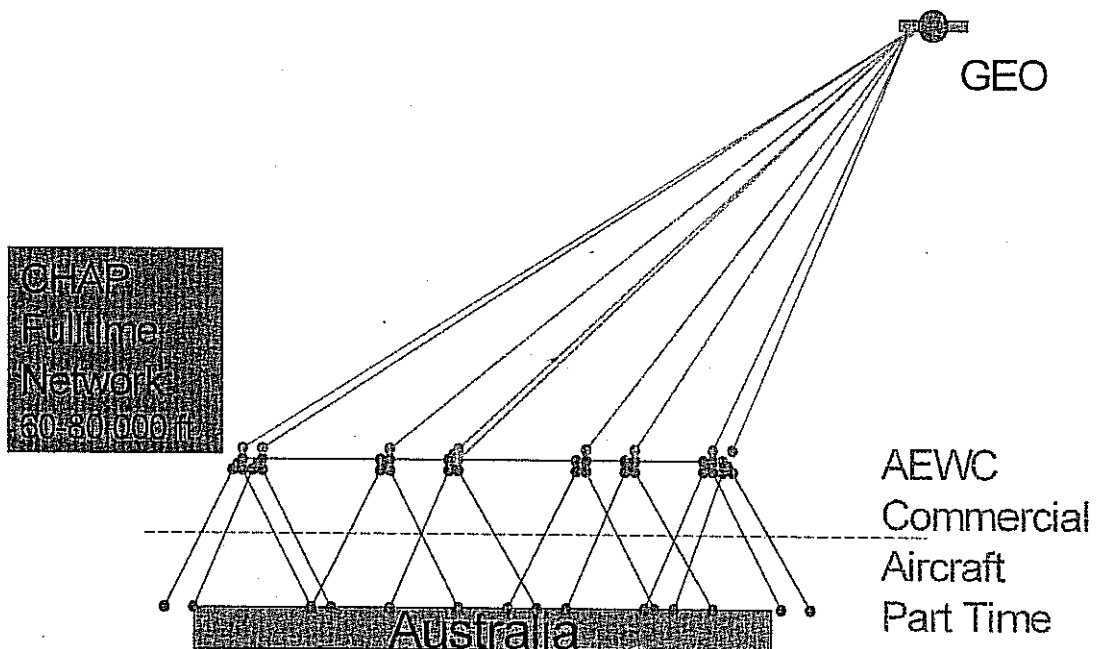
CHAP AirTech has proven technology to position "*Hummingbird*" between 60,000 feet and 80,000 feet (18 kilometres and 24 Kilometres) for periods in excess of 90 days. The footprint per '*Hummingbird*' is a radius of 1,000 kilometres resulting in the need of NINE (9) airborne platforms at a time to give total coverage of Australia including its 200km coastal zone, TWO (2) spare "*Hummingbird*" Unmanned Aerial Vehicles (UAV) are kept on the ground should they be required to upgrade payloads and for scheduled service and maintenance.

'*Hummingbird*' UAV Network is a strategic capability that is recoverable, on station 24/7, provides real-time surveillance, reconnaissance (Digital and IR images) and communication coverage of the Nation with out any dropout.

# CHAP NETWORK COVERAGE OF AUSTRALIA



# CHAP VERTICAL NETWORK:



## **CHAP AirTech Applications and Payloads:**

- ✦ Government / Defence national security applications (real-time surveillance, reconnaissance, communications).
- ✦ Telecommunications.
- 4 Digital TV coverage and transmission.
- ✦ Remote area communication.
- 4 Transmission management.
- ✦ eCommerce dedicated business transmission.
- ✦ Coastal surveillance (customs).
- ✦ Environmental survey and patrol.
- ✦ Mapping and aerial photography.
- ✦ Mineral exploration and geographic studies.
- ✦ Marine communication extension, safety and navigation enhancement.
- ✦ Weather reports (both actual and forecast).
- ✦ Scientific research in the upper atmosphere.
- ✦ Emergency and rescue service (fire, police, ambulance, State Emergency Services).
- ✦ Disaster assessment and relief co-ordination.
- ✦ Airborne assessment space research and astronomy.
- ✦ Technical development of communications systems.
- ✦ Land care, conservation programs.
- ✦ Digital mobile phone services.
- ✦ Digital Internet services.
- 4 Vehicle tracking systems.

CHAP AirTech's intention is not to sell '*Hummingbird*' Platforms but rather to leasing space on the Platform's to reduce Customer costs. Export Approval-In-Principal has been granted by Strategic Trade Policy & Operations International Materials Branch Department of Defence pertaining to '*Hummingbird*' deployment offshore.

## **Development of Water Bladder System for fitment to ADF Hercules C-130 Transport aircraft for application in Bushfire Control:**

CHAP AirTech is undertaking the Mathematical Modelling for the development of a Bladder System for fitment to ADF Hercules C-130 Transport Aircraft for air bombing of bushfires.

We view the use and deployment of ADF's Hercules C-130 Transport Aircraft will greatly assist in reducing the damage and loss of property caused by Bushfires Nationally by providing the capability to extinguish Bushfires in a shorter period of time than present methods employed and at the same time significantly reduce Community / Government LOSSES and COSTS.

Initial benefits are:

- ☞ Capacity to carry up to 36,000 litres of water per Hercules C-130 Aircraft compared to 'Elvis' Helicopters limited capacity of 10,000 litres of water for water air bombing of bushfires;
- 4 Significantly reduced costs over the use of Helicopters (present air bombing system) as the ADF Hercules C-130 Aircraft are a fixed cost including Aircrew;
- ☞ One-off cost for 'Roll in Water Bladder's';
- ☞ 'Roll in Water Bladders' can be easily fitted to ADF Hercules C-130 Transport Aircraft when required;
- ☞ Only on going cost is Fuel and Routine Maintenance of Hercules C-130 Aircraft when deployed on Bushfire fighting missions;
- ☞ Due to increased payload capacity and greater number of ADF Hercules C-130 Transport Aircraft there is a greater capacity to extinguish Bushfire(s) in a very short period of time than present system;
- ☞ A bushfire fighting capability that can be deployed in a very short period;
- 4 A capability that is on call at all times;
- ☞ A capability to fight more than one bushfire at a time be that on the East or West Coast of Australia due to the number of ADF Hercules C-130 Transport Aircraft;
- ☞ A capability that is not restricted to Fire season as is present system;
- ☞ A Defence capability that can be deployed as and when required during conflict and or terrorist diversion attack;
- ☞ ADF Hercules C-130 could also be used to spread fertiliser and/or ash bonding agent after the fire to stimulate re-growth and to retard ash run-off.

## ✿ **Development of RED RHINO Plow for application in Bushfire Control:**

RED RHINO Engineering Pty Ltd has developed a Plow that reduces Tractor Horsepower / pulling power requirements by as much as 30 to 50% as compared to the conventional Plow this is due to the design and shape of the Tynes. The Tynes have a profile similar to that of a side view of a Rhinoceros's head. The leading edge of the Tyne is sharpened as a blade that cuts through the ground and grass cover, attached to the base of the Tyne is a specially designed Foot that lifts the soil thus aerating the soil. The soils once aerated will retain more water, reducing the loss of minerals and nutrients therefore reducing salinity and aiding in drought proofing. The application and use of the RED Rhino Plow after the Bushfire has passed will assist the soil in its ability to retain water and reduce considerably ash runoff. This will reduce the inefficient actions taken by some Local Governments in digging long trenches to try and retard the runoff of ash and erosion as a post event.

We have only listed some of the many cost saving benefits of employing ADF Hercules C-130 Transport Aircraft;

## **CHAP AirTech Management Team experience and capability:**

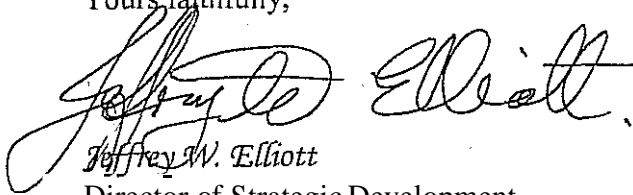
- ✦ Over 30 years commercial aircraft experience;
- ✦ 18 years experience in Defence;
- ✦ 21 years experience Local, State and Federal Government;
- ✦ 40 years agricultural experience and drought proofing;
- ✦ First hand experience as Assistant to Fire Chief in charge of the 1968 Illawarra Bushfire;
- ✦ Founding Member NSW Government 'Interdepartmental Committee for Land Information Systems'
- ✦ Credited with the development of the 'Constraint to Development Series of Maps' based on Central Mapping Authorities Series of Maps for the Illawarra;
- ✦ Credited with the development of the Street Directory for Central Mapping Authorities 1:25,000 – 1:10,000 Maps and 1:4000 - 1:2000 – 1:500 Cadastral Maps used by Wollongong City Council, NSW Water Board, Electricity Authority, Public Works, Mines Department and those used by Commercial Mining Companies;
- ✦ Credited with the development of the Catchment Series of Maps for the Illawarra.

The 1968 Bushfire in the Illawarra was the catalyst to develop the above Databased Systems as at the time there was limited coordination e.g. 32 different radio frequencies were being used, 36 different series of Maps, and kingdom building running rampant.

Hence we believe that we should advise COAG Inquiry on Bushfire Mitigation and Management Committee an insight to the developments presently being undertaken by CHAP AirTech.

Should you require any additional information and/or assistance please do not hesitate to contact me by mobile on 0407-439 766 or by E-mail: [info@financefacilities.com](mailto:info@financefacilities.com)

Yours faithfully,



Jeffrey W. Elliott  
Director of Strategic Development